

Attorney Docket No.: 0180146

In the Claims:

Claim 1 (original): A method of forming a field-effect transistor on a substrate, said method comprising steps of:

forming a high-k dielectric layer over said substrate;
forming a first polysilicon layer over said high-k dielectric layer, said first polysilicon layer being formed by utilizing a precursor that does not comprise hydrogen.

Claim 2 (original): The method of claim 1 further comprising a step of forming a second polysilicon layer over said first polysilicon layer.

Claim 3 (original): The method of claim 1 wherein said step of forming said first polysilicon layer over said high-k dielectric layer comprises utilizing a silicon tetrachloride precursor in an atomic layer deposition process.

Claim 4 (original): The method of claim 2 wherein said second polysilicon layer is formed by utilizing a precursor that comprises said hydrogen, said first polysilicon layer preventing said hydrogen from interacting with said high-k dielectric layer.

Claim 5 (original): The method of claim 1 wherein said first polysilicon layer has a thickness of between approximately 50.0 Angstroms and approximately 200.0 Angstroms.

Attorney Docket No.: 0180146

Claim 6 (original): The method of claim 2 wherein said first polysilicon layer and said second polysilicon layer form a gate electrode stack, said gate electrode stack having a thickness of between approximately 1000.0 Angstroms and approximately 2000.0 Angstroms.

Claim 7 (original): The method of claim 1 wherein said high-k dielectric layer is selected from the group consisting of hafnium oxide and zirconium oxide.

Claim 8 (original): The method of claim 1 wherein said step of forming said first polysilicon layer over said high-k dielectric layer comprises utilizing a physical vapor deposition process.

Claims 9-15 (canceled).

Claim 16 (original): A method of forming a field-effect transistor on a substrate, said method comprising steps of:

forming a high-k dielectric layer over said substrate;
forming a gate electrode layer over said high-k dielectric layer, said gate electrode layer comprising polysilicon, said gate electrode layer being formed by utilizing a precursor that does not comprise hydrogen.

Attorney Docket No.: 0180146

Claim 17 (original): The method of claim 16 wherein said step of forming said gate electrode layer over said high-k dielectric layer comprises utilizing a silicon tetrachloride precursor in an atomic layer deposition process.

Claim 18 (original): The method of claim 16 said step of forming said gate electrode layer over said high-k dielectric layer comprises utilizing a physical vapor deposition process.

Claim 19 (original): The method of claim 16 wherein said high-k dielectric layer is selected from the group consisting of hafnium oxide and zirconium oxide.

Claim 20 (original): The method of claim 16 wherein said gate electrode layer has a thickness of between approximately 1000.0 Angstroms and approximately 2000.0 Angstroms.